

## საქართველოს სტანდარტი

---

ელექტრო კაბელები - ძაბვაზე მიერთებული კაბელები რომელიც არ არმატება 450/750 V (U0/U) გამოიყენება გზამკვლევადად - ნაწილი 1: ზოგადი მოთხოვნები

საქართველოს სტანდარტებისა და მეტროლოგიის  
ეროვნული სააგენტო  
თბილისი

# სსტ ენ 50565-1:2014/2016

## საინფორმაციო მონაცემები

1 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს 2016 წლის 17 მაისი № 42 და 2016 წლის 1 თებერვლის № 7 განკარგულებებით

2 მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 50565-1:2014 „ ელექტრო კაბელები - ძაბვაზე მიერთებული კაბელები რომელიც არ არემატება 450/750 V (U0/U) გამოიყენება გზამკვლევად - ნაწილი 1: ზოგადი მოთხოვნები“

### 3 პირველად

4 რეგისტრირებულია საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2016 წლის 17 მაისის №268-1.3-9186

აკრძალულია ამ სტანდარტის გადაცემა მესამე პირებისათვის ან/და მისი სხვა ფორმით გავრცელება

**Electric cables -  
Guide to use for cables with a rated voltage not exceeding 450/750 V  
( $U_0/U$ ) -  
Part 1: General guidance**

Câbles électriques -  
Guide d'emploi des câbles avec une  
tension assignée n'excédant pas 450/750  
V ( $U_0/U$ ) -  
Partie 1: Lignes directrices

Kabel und Leitungen -  
Leitfaden für die Verwendung von Kabeln  
und isolierten Leitungen mit einer  
Nennspannung nicht über 450/750 V  
( $U_0/U$ ) -  
Teil 1: Allgemeiner Leitfaden

This European Standard was approved by CENELEC on 2014-02-17. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels**

# Contents

Page

Foreword.....	4
Introduction.....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions.....	6
4 Safety.....	7
4.1 General.....	7
4.2 Selection and installation.....	7
4.3 Cables in fixed installations.....	8
4.4 Flexible cables.....	9
5 Limiting conditions.....	10
5.1 General.....	10
5.2 Voltage.....	10
5.3 Current-carrying capacity.....	11
5.4 Thermal effects.....	12
5.5 Fire characteristics.....	13
5.6 Mechanical stress.....	13
5.6.1 General.....	13
5.6.2 Tension.....	13
5.6.3 Bending.....	14
5.6.4 Compression.....	15
5.6.5 Torsion.....	16
5.7 Compatibility.....	16
5.8 Dynamic stresses (electromechanical stress).....	16
6 Initial and periodic verifications.....	16
7 Packaging, storage and handling/transportation.....	16
7.1 Packaging.....	16
7.2 Storage.....	16
7.3 Handling/transportation.....	17
Annex A (informative) Types of usage.....	18
Annex B (informative) Classes of duty.....	19
Annex C (informative) Current ratings (copper conductors).....	21
Annex D (informative) Duty cycles, current ratings and voltage drop for arc welding cables (copper conductors).....	23
Figure 1 — Definition of internal bending radius.....	14
Table 1 - Spacing of supports for non-armoured cables in accessible positions.....	9
Table 2 — Maximum permitted voltages against rated voltage of cable.....	10

**Table 3 — Minimum recommended bending radii at cable temperatures of  $(20 \pm 10)$  °C..... 15**  
**Table C.1 - Current rating for thermoplastic light and ordinary duty flexible cable.....21**  
**Table C.2 - Current rating for cross-linked flexible cable .....21**  
**Table C.3 - Current rating for cross-linked heavy duty flexible cable .....22**  
**Table D.1 — Ambient temperature correction factors .....23**  
**Table D.2 — Current rating for single cycle operation over a maximum period of 5 min .....24**  
**Table D.3 — Current rating for repeat cycle operation based on 5 min repeat period .....24**  
**Table D.4 — Current rating for repeat cycle operation based on a 10 min repeat period .....25**  
**Table D.5 — Voltage drop at normal and elevated temperatures.....25**

საინფორმაციო ნაწილი. სრული ტექსტის საწინააღმდეგო შეიძინეთ სტანდარტი.

### Foreword

This document (EN 50565-1:2014) has been prepared by Technical Committee CLC/TC 20, "Electric cables".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-02-17
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2017-02-17

This document together with Part 2 supersedes HD 516 S2:1997.

EN 50565-1:2014 and EN 50565-2:2014 includes the following significant technical changes with respect to HD 516 S2:1997:

Both parts of EN 50565 refer to cable types specified in EN 50525, replacing the reference to the HD 21 and HD 22 cable types. Part 1 provides general recommendations and guidance, Part 2 covers specific guidance for each cable type in EN 50525, like designation, constructional details, recommendations for installation, conditions and limits of operation, temperature limits and recommended use/suitability.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

## Introduction

This European Standard provides guidance for equipment manufacturers, installers and end-users on the properties of low voltage electric cables, and the limitations that are deemed to be necessary in order to safeguard life, buildings, and goods. It also gives a reasonable certainty on cable life time expectation relevant to its application, i.e. the duration of acceptable performance considered as reasonable for a cable used in a fixed installation for the distribution of electricity in a building is more than that for flexible cable.

It is not possible to cover all the uses that the installers or users may wish to use for a specific type of cable. The use other than the recommended ones could result in a lowering of safety and/or in a reduction in the expected life of the cable. If a cable is intended to be used outside the recommended uses the cable manufacturer should be consulted for advice.

In specific cases where guidance is not given, it is recommended that specific advice of the cable manufacturer is sought.

In some countries, legislation may limit the use of certain cable types and define additional requirements for cable installation practice.

Additional information on installation practice is given in HD 60364 and HD 384 series of specifications, and national regulations/code practices.